

CLAIMS

What is claimed is:

1. A method for delivering presence information regarding push-to-talk subscribers, the method comprising:
  - 5 (a) receiving, from a push-to-talk or presence server, presence information regarding a first push-to-talk subscriber, the presence information being destined for a second push-to-talk subscriber;
  - (b) determining whether the second push-to-talk subscriber is available; and
  - 10 (c) in response to determining that the second push-to-talk subscriber is available, delivering the presence information to the second push-to-talk subscriber in a manner that bypasses a short message service center (SMSC).
2. The method of claim 1 wherein receiving presence information includes
  - 15 receiving a short message peer-to-peer (SMPP) message containing the presence information.
3. The method of claim 1 wherein determining whether the second push-to-talk subscriber is available includes formulating a query to a home location register (HLR).
- 20 4. The method of claim 1 wherein delivering the presence information includes delivering the presence information using short message service (SMS).
5. The method of claim 1 wherein delivering the presence information includes determining whether the second push-to-talk subscriber is

unstructured supplementary services data (USSD)-capable, and in response to determining that the second push-to-talk subscriber is USSD-capable, delivering the presence information to the second push-to-talk subscriber using USSD.

- 5     6. The method of claim 5 wherein delivering the presence information to the second push-to-talk subscriber includes in response to determining that the second push-to-talk subscriber is not USSD-capable, delivering the presence information to the second push-to-talk subscriber using short message service (SMS).
- 10    7. The method of claim 1 wherein delivering the presence information to the second push-to-talk subscriber in a manner that bypasses the SMSC includes determining the location of the second mobile subscriber and delivering the presence information via an SMS message to the second push-to-talk subscriber without sending the SMS message through the SMSC.
- 15    8. The method of claim 1 comprising, in response to determining that the second push-to-talk subscriber is unavailable, discarding the presence information.
- 19    9. The method of claim 1 comprising, in response to determining that the second push-to-talk subscriber is unavailable, notifying the presence or SMPP server that the second mobile subscriber is unavailable.
- 20    10. A short message service (SMS) gateway for delivering presence information regarding push-to-talk subscribers in a manner that

bypasses a short message service center (SMSC), the SMS gateway comprising:

- (a) a short message point-to-point (SMPP) interface for receiving, from an SMPP or a presence server, presence information regarding a first push-to-talk subscriber, the presence information being destined for a second push-to-talk subscriber;
  - (b) an SS7 interface for delivering the presence information to the second push-to-talk subscriber; and
  - (c) a short message gateway function operatively associated with the SS7 and SMPP interfaces for delivering the presence information to the second push-to-talk subscriber in a manner that bypasses an SMSC.
11. The SMS gateway of claim 10 wherein the short message gateway function is adapted to determine whether the second push-to-talk subscriber is available, in response to determining that the second push-to-talk subscriber is available, to deliver the presence information to the second push-to-talk subscriber in a manner that bypasses an SMSC.
15. The short message gateway of claim 11 wherein the short message gateway function is adapted to discard the presence information in response to determining that the second push-to-talk subscriber is not available.
20. The SMS gateway of claim 11 wherein the short message gateway function is adapted to notify the push-to-talk or presence server in

response to determining that the second push-to-talk subscriber is not available.

14. The SMS gateway of claim 10 comprising an unstructured supplementary services data (USSD) interface operatively associated  
5 with the short message gateway function, wherein the short message gateway function is adapted to determine whether the second push-to-talk subscriber is USSD-capable and, in response to determining that the second push-to-talk subscriber is USSD-capable, the short message gateway function is adapted to use the USSD interface to deliver the presence information to the second push-to-talk subscriber  
10 in response.
15. The SMS gateway of claim 14 wherein the short message gateway function is adapted to deliver the presence information to the second push-to-talk subscriber using SMS in response to determining that the  
15 second push-to-talk subscriber is not USSD-capable.
16. The SMS gateway of claim 10 wherein the short message gateway function is adapted to query an HLR in order to determine the availability and location of the second push-to-talk subscriber.
17. A computer program product for delivering presence information  
20 regarding push-to-talk subscribers, the computer program product comprising computer executable instructions embodied in a computer readable medium for performing steps comprising:

- (a) receiving, from a push-to-talk or presence server, presence information regarding a first push-to-talk subscriber, the presence information being destined for a second push-to-talk subscriber;
  - (b) determining whether the second push-to-talk subscriber is available; and
  - (c) in response to determining that the second push-to-talk subscriber is available, delivering the presence information to the second push-to-talk subscriber in a manner that bypasses a short message service center (SMSC).
- 10    18. The computer program product of claim 17 wherein receiving presence information includes receiving a short message peer-to-peer (SMPP) message containing presence information.
19. The computer program product of claim 17 wherein determining whether the second push-to-talk subscriber is available includes formulating a query to a home location register (HLR).
- 15    20. The computer program product of claim 17 wherein delivering the presence information includes delivering the presence information using short message service (SMS).
21. The computer program product of claim 17 wherein delivering the presence information includes determining whether the second push-to-talk subscriber is unstructured supplementary services data (USSD)-capable, and in response to determining that the second push-to-talk subscriber is USSD-capable, delivering the presence information to the second push-to-talk subscriber using USSD.
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22. The computer program product of claim 21 wherein delivering the presence information to the second push-to-talk subscriber includes in response to determining that the second push-to-talk subscriber is not USSD-capable, delivering the presence information to the second push-to-talk subscriber using SMS.
- 5        23. The computer program product of claim 17 wherein delivering the presence information to the second push-to-talk subscriber in a manner that bypasses the SMSC includes determining the location of the second push-to-talk subscriber and delivering the presence information via an SMS message to the second push-to-talk subscriber without sending the SMS message through the SMSC.
- 10      24. The computer program product of claim 17 comprising, in response to determining that the second push-to-talk subscriber is unavailable, discarding the presence information.
- 15      25. The computer program product of claim 17 comprising, in response to determining that the second push-to-talk subscriber is unavailable, notifying the presence or push-to-talk server that the second push-to-talk subscriber is unavailable.